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Properties of Circuits

784 THE USE OF THE RETARDATION EFFECT IN A CIRCUIT FOR IMPROVING DIRECTIONAL PROPERTIES (and a New Design of Relay) — I. I. Guterman & A. D. Drosdov. (*Journal of Tech. Phys. [Russian]*, No. 2/3, Vol. 12, 1942, pp. 93-101)

Directional relays are often used in protective circuit but their operation is not always reliable. Accordingly a new type of relay was developed in which use is made of a chain circuit. The relay is described and its operation discussed. Various applications are considered. As result of tests are given. It is claimed that this relay possesses a large torque, is quick-acting, and has no dead position.

GUTENMAKHER, L. I.

Electric modelmaking; electrical integrator
Sovietsk SSR, 1943 126 p. (48-13154)

Moskva, Izd-vo Akademii nauk

QA85.G8

GUTENMACHER, L. I.

"Artificial many-dimensional models for Approximate Solutions of Integral Equations"

Doklady Akad. Sci. URSS (N.S.) 47, 94-96 (1945)

Gutermacher, L. I.

"The Integral Equations of many dimensional electric modesl.

Dok AS UR SS (N.S.) 47, pp 169-171, 1945

GUTENMACHER, L. I.

"Electric circuits for Approximate Solutions of systems of Equations"
Doklady Ak Sci URSS (N.S.) 47, 259-262, 1945.

GUTENMAKHER, L. I.

2

Gutenmakher, L. I. Electrical models (analogies) of physical phenomena and some of their applications in technology and physics. Bull. Acad. Sci. URSS. Cl. Sci. Tech. [Izvestia Akad. Nauk SSSR] 1946, 1121-1146 (1946). (Russian)

Source: Mathematical Reviews,

Vol. 8, No. 3

SYNOPSIS

GUTENMATHER, L. I.

"The processes in circuits composed of active resistances", by Doctor of
Technical Sciences L. I. Gutenmather, at the Power Engr. Inst. im KRZHIZHANOVSKIY
of the Acad. Sce. USSR.

SO: Elektrichestvo, No 5, Moscow, May 1947 (U-5533)

GUTENMAKHER, L. I.

"A method of electrical modeling (compilation and problems)", by Doctor of Technical Sciences L. I. Gutenmakher, at the Power Engn. Inst. im KRZHIZHANOVSKIY of the Acad. Sce. USSR.

SO: Elektrichestvo, No 5, Moscow, May 1947 (U-5533)

GUTENMAKHER, L. I.

"Modeling electromagnetic fields in iron, taking into account nonlinearity and hysteresis", by Doctor of Technical Sciences L. I. Gutenmakher, at the Power Engr. Inst. im KRZHIZHANOVSKIY of the Acad. Sce. USSR.

SO: Elektrichestvo, No 5, Moscow, May 1947 (U-5533)

GUTENMAKHER, L. I.

"A model composed of resistances and capacitances", by Doctor of Technical Sciences L. I. Gutenmakher, at the Power Engr. Inst, im KRZHIZHANOVSKITY of the Acad. Sce. USSR.

SO: Elektrichestvo, No 5, Moscow, May 1947 (U-5533)

GUTENMAKHER, L. I.

"Electromechanical and mechanical models", by Doctor of Technical Sciences
L. I. Gutenmakher, at the Power Engr. Inst. im KRZHIZHANOVSKIY of the
Acad. Sce. USSR.

SO: Elektrichestvo, No 5, Moscow, May 1947 (U-5533)

GUENMAKHER, L. I., KOROL'KOV, N. V.

"The solution of a system of linear algebraic equations on a matrical scheme with amplifiers", by Doctor of Technical Sciences L. I. Gutenmakher and Engineer N. V. Korol'kov, at the Power Engr. Inst. im KRZHIZHANOVSKIY of the Acad. Sce. USSR.

SO: Elektrichestvo, No 5, Moscow, May 1947 (U-5533)

GUTENMARKER, L. I.

"Models of active resistances", by Doctor of Technical Sciences L. I. Gutenmarkher,
at the Power Engr. Inst. in KRZHIZHANOVSKIY of The Acad. Sce. USSR.

SO: Elektrichestvo, No 5, Moscow, May 1947 (U-5533)

GUTENMAKHER, L. I.

5*

Electrical multi-dimensional models with amplifiers.
GUTENMAKHER, L. I. *Bull. Acad. Sci. URSS, Dep. Sci. Tekh. (No. 5) 511-20 (1947) in Russian.*—A novel electrical computing is described which reproduces to scale, by means of potentiometers, the various coefficients of algebraic or differential equations, the capacitors and inductors of earlier models being eliminated. The main amplifier consists of a voltage amplifying stage feeding via an auto-transformer a modified push-pull stage. The grid of one of the valves is supplied through a phase-shifting RC network, so that the outputs have a phase difference of 90°; the outputs are linked separately to transformers with resistive voltage dividers across their secondary windings. Diagrams illustrate the composition of the computer from resistors, voltage dividers and amplifiers in conjunction with reactive quadrupoles. Examples of solutions of linear differential equations are given, also of Maxwellian equations of particular interest in waveguide investigations. A. L.

2 64

GUTENMAKHER, L. I.

At the plenary meeting of the conference of the Power Establishments of the Academies of Sciences of the Union Republics and of the Affiliates of the Academy of Science, USSR, the following paper was presented by Doctor of Technical Sciences L. I. Gutenmakher on "Electrical models in the field of power".

SO: Elektrichestvo, No. 9 Moscow, Sept. 1947 (U-5534)

GUTENMAKHER, L. I., PROF

PA 15 49740

USSR/Electricity
Electrical Analogy
Mechanical Analogies

Aug 48

"Electrical Models of Physical Phenomena," Prof L. I. Gutenmakher, Dr Tech Sci, Power Eng Inst imeni Krzhizhanovskiy, Acad Sci USSR, 6 $\frac{1}{2}$ pp

"Elektrichestvo" No 8

Outlines new branch of electrical technology--electric modeling and machine mathematics. Reviews results of work.

15/49740

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R000617630002-6

Gutenmakher, L. I., "Electric Models and Their Use in Technology and Physics." Outline for Public Lectures for Engineering and Technical Personnel, All-Union Society for the Propagation of Political and Scientific Knowledge, Pravda, 1949, 32 pp, 55,000 copies.

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R000617630002-6"

KOROBOKHIN, I.V., kand. tekhn. nauk; BEL'SKIY, B.R., inzh.; MIKHAYLOV, Ye.A., inzh.; GUTENMAKHER, L.I., laureat Stalinskoy premii doktor tekhn. nauk, nauchnyy red.; SEVOST'YANOVA, M.V., doktor fiz.-mat. nauk, prof., nauchnyy red.; RUSEVICH, I.M., inzh., red.; OSTROVSKAYA, Ye.G., otv. za vypusk

[Catalog-manual of laboratory devices and equipment] Katalog-spravochnik laboratornykh priborov i oborudovaniia. Moskva, Mashgiz. No.21. [Calculating machines and devices] Schetno-vychislitel'nye pribory i apparaty. 1948. 22 p. No.27. [Microscopes and lenses] Mikroskopy i lupy. 1950. 87 p. (MIRA 16:4)

1. Moscow. Vsesoyuznaya vystavka otechestvennogo priborostroyeniya, 1948.

(Calculating machines--Catalogs)
(Microscopes--Catalogs) (Lenses--Catalogs)

GUTENMAKHER, L. I.

"Transaction of Conference on Contactless Methods of Automation."
USSR Academy of Sciences Press, 1951.

1. GUTENMAKHER, L. I.
2. USSR (600)
4. Classification of Sciences
7. Adaption of mechanical techniques to scientific reports. Vest. AN SSSR
22 no. 8, 1952
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

GUTENMAKHER, Lev Izraylevich, laureat Stalinskoy premii, d-r tekhnicheskikh nauk, professor; MOROZ, I.I., redaktor; ISLENT'YEVA, P.G., tekhnicheskiy redaktor.

[Electrical modeling] Elektricheskoe modelirovaniye; publichnaia lektsiia dlia inzhenerno-tekhnicheskikh rabotnikov, prochitannaya v Politekhnicheskem muzee v Moskva, Moskva, Izd-vo "Znanie," 1955. 45 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 4, no.40) (MLRA 9:1) (Electromechanical analogies)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R000617630002-6

GOTTENAKER, L.I.

"New Ways of Development Materials and Scientific Information."
USSR Academy of Sciences, Press, 1955.

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R000617630002-6"

For the operator. Then $\lim_{t \rightarrow \infty} \mathbf{x}(t)$ will minimize the L^2 -norm of $\mathbf{x}(t) - \mathbf{A}^{-1}\mathbf{f}(t)$, so stability without the stabilizing term is guaranteed. At the same time, the system is stable in the L^2 -norm.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000617630002-6"

GUTENMAKHER, L. I.

"Automatization of the Control of Machine Tools and Machines Using Computing Systems." Scientific-Production Session, Moscow establishment for Scientific-Technical Propaganda, 1956.

GUTENMAXHER, L.I., doktor tekhnicheskikh nauk.

New type of statistical and informational machines. Vest.
AN SSSR 26 no.10:12-21 0 '56.

(MLRA 9:11)

(Information storage and retrieval systems)
(Electronic calculating machines)

SOV/112-58-3-4535

Translation from: Referativnyy zhurnal. Elektrotehnika, 1958, Nr 3, p 164 (USSR)
AUTHOR: Gutenmakher, L. I.

TITLE: Computers in the Automation of Lathe and Machine Control
(Avtomatizatsiya upravleniya stankami i mashinami s primeneniem schetno-reshayushchikh sistem)

PERIODICAL: V sb.: Avtomatizatsiya v mashinostr. M., Mashgiz, 1957, pp 7-23

ABSTRACT: Advantages of using the machine mathematics for program lathe control are noted; existing and possible developmental principles of such controls are discussed. Methods are described for reproducing the defined functions by means of binary pulse code, or interpolation formulae, or solution of a set of differential equations. In the latter case, auxiliary tables presented in the article can be used. Mathematical technique of curve presentation will help in automating the work of a designer and will expand the range of his creative efforts. The mathematical machine can also be used for calculating

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SOV/112-58-3-4535

Computers in the Automation of Lathe and Machine Control

certain data of the machining process (i.e., figuring out the tool-motion path); a computer example is cited. The problems of digital-computer structure are considered. Operation of controlling computers is regarded as similar to the operation of a pulsing conveyer. Modern types of computer storing devices and their characteristics are briefly listed. Schemes of digital program lathe control are presented, as well as the schemes of discrete-data conversion into continuous data and vice versa. Methods of preparing data needed for machining on the digital-control lathes are briefly considered; system peculiarities are noted. Advantages of special "step-by-step" electric motors that have recently come into wider use are emphasized. A number of system assemblies and units subject to priority development are listed.

Illustrations: 5. Bibliography: 5 items.

L.I.Sh.

Card 2/2

GUTENMAKHER, L.I., doktor tekhnicheskikh nauk, professor.

Cybernetics and inventing. Izobr. v SSSR 2 no.1:7-10 Ja '57.
(Information storage and retrieval systems) (MLRA 10:4)
(Cybernetics)

GUTENFELDER, L. I. (Dr. Tech. Sci.)

"Review of Possibilities of Application of Contact-less Magnetic and Capacity Blocks and Elements in Automatic Systems,"

paper read at the Session of the Acad. Sci. USSR, on Scientific Problems of Automatic Production, 15-20 October 1956.

Avtomatika i telemekhanika, No. 2, p. 182-192, 1957.

9015229

AUTHOR: Gutenmakher, L. I., Doctor of Technical Sciences. 30-10-12/26

TITLE: Electrical Model Representation of Some Processes of Human Brain Work (Elektricheskoye modelirovaniye nekotorykh protsessov umstvennogo truda).

PERIODICAL: Vestnik AN SSSR, 1957, October, Nr 10, pp. 88-96 (USSR)

ABSTRACT: The laboratory for electrical model representation of AN USSR terminated the preliminary works for the construction of an experimental information machine with a quick-acting "brain(regenerator)" for 2 milliards of double signals.

The input information may be taken from various sources, such as, e.g. from manual key-board, perforated cards, magnetic tapes, and photoelectric instruments. The input information are converted into a double code and subsequently recorded on individual sheets of the long lived capacitive memory-preserver. The separate sheets are compressed to blocks which are electrically connected with the addressing system of the machine, the "memory", and preserved in the "library". The more input (initial?) data are preserved in the machine, the more valuable it is.

Card 1/2

Electrical Model Representation of Some Processes of Human Brain Work 30-10-12/26

Questions put to the machine are supplied in program-like form to the magnetic operative memory-device which is connected with that part of the machine solving, or answering respectively the set problems.

The programs according to types are preserved in a separated part of this device for finding the reply. From these two subparts and other special devices the replies are conveyed again over the magnetic operative memory-device to a decoding appliance. Answers of special value which are not yet recorded in the "library", are transmitted to the same for preservation. From the decoding appliance the answer is furnished either in groups of ciphers, or immediately in Russian language. There are 2 figures.

AVAILABLE: Library of Congress.

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000617630002-6"

16.800

S/044/60/000/003/010/012
C111/C222

AUTHORS: Gutenmakher, L.I., Avrukha, M.L., Vissanova, I.A., Mokheli, L.L. and Khol'sheva, A.F.

TITLE: Magnetic devices free of contacts for control systems

PERIODICAL: Referativnyy zhurnal. Matematika, no. 3, 1960. 170, abstract 3556. (Avtomat. upravleniye i vychisl. tekhn. M., Mashgiz, 1958, 113-145)

TEXT: The authors describe assemblies and blocks of a number of devices using ferrite and oksifer cores which were designed in the laboratoriya elektromodelirovaniya AN SSSR (laboratory for electrical modeling of the Academy of Sciences USSR) as well as a long-term storage device with condensers. The authors give data on an operating mock-up of a computer with magnetic units and a long-term operative capacity and magnetic storage device with a magnetic control for 1024 numbers and the velocity of recording and reading of 10 microseconds.

[Abstracter's note: Complete translation.]

Card 1/1

GUTENMAKHER, L.I.

AUTHOR: Kozlov, G. B. 30-2-43/49

TITLE: The Use of Magnetic Elements (Ispol'zovaniye magnitnykh elementov)
All-Union Conference (Vsesoyuznoye soveshchaniye)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 2,
pp 112-113 (USSR)

ABSTRACT: This conference took place in Moscow from November 25 to 30. It was organized by the Institute for Automatic and Remote Control and the Board for Magnetic Amplifiers and Contactless Magnetic Elements at the Presidential committee of the Akademii Nauk SSSR. Besides the Soviet scientists from various cities of the USSR, officials of scientific research and educational institutions, construction and design organisations of different industrial branches, also representatives of the Academy of Sciences from Bulgaria, China, Poland, and Czechoslovakia attended the conference. The discussions were divided into two groups: magnetic amplifiers and discrete magnetic elements. Furthermore, the author divided the reports into the following sections: theory of magnetic amplifiers and discrete

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The Use of Magnetic Elements. All Union Conference

30-2-45/49

machine elements; their computation and construction; their joint application. The author mentions the following reports: L. I. Gutenmakher reported on the work carried out by the Laboratory for Electrical Modelling

Moreover, reports of foreign scientists were given:

- 1) Yu. Gashkovets reported on stage of the investigations in the field of magnetic amplifiers in Czechoslovakia.
- 2) S. Vendzhin reported on automation in Poland.
- 3) E. S. Dzhakov, Corresponding Member of the Bulgarian Academy of Sciences reported on the development of a contactless magnet relay;
- 4) Professor Min Nay-da, Representative of the Chinese Academy of Sciences reported on the theory of four poles (chetyrekhpolyusnikov).

It was found at this conference that the development and the application of various types of magnetic elements for automation is too slow. The lacking of a centralized production of the types and series of cores, magnetic amplifiers, and other magnetic elements needed most was described as being main reason for this. The domestic

Card 2/3

The Use of Magnetic Elements. All Union Conference

30-2-43/49

production of these products shows considerable short comings. The necessity of an extension of scientific research work in this field at the institutes for automation, remote control, pecision mechanics and computation technique and at the Laboratory for Electrical Modelling was pointed out.

AVAILABLE: Library of Congress

1. Magnets-Applications 2. Magnetic amplifiers-Theory

Card 3/3

<p>12 часов с 17 часов</p> <p>В. С. Балакин (СИА) Строительство установок с использованием магнитной изоляции</p> <p>З. Н. Азарин Рекомендации проекты к разработке схем акустических транзисторов</p> <p>Л. Н. Гутников Электронное излучение при новых родах разомкнутых</p> <p>Работа секций</p> <p>1. СЕКЦИЯ ТЕОРИИ ИНФОРМАЦИИ Руководитель: В. В. Сифоров</p> <p>9 часов (с 10 до 16 часов)</p> <p>В. Н. Сифоров, Л. Ф. Борзин О взаимодействии телетрансляции разомкнутых корректи- рующих кодов</p>	<p>7. Г. Балашов, В. Н. Григорьев, Р. Г. Котин, Р. Н. Копылов, Б. Н. Рябченко</p> <p>О повышении эффективности обработки звука при синтезе изображения с помощью акустического кода разомкнутых</p> <p>А. Н. Григорьев Использование шифровых схем гармонического кода разомкнутых</p> <p>В. Е. Курочкин Излучение, звукопись и переносы, утвер- ждение новых схем гармонического кодирования речи</p> <p>9 часов (с 18 до 22 часов)</p> <p>Д. Н. Фине Пропускная способность синтетических каналов с использованием параметров при излучении звука</p> <p>Д. Ф. Борзин О спектре передачи спектральных по спектральным сигналам</p>
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Report submitted for the Centennial Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in A. S. Popov (VTSR), Moscow,
8-12 June, 1959

GUTENMAKHER, L.I.; MAKHMUDOV, Yu.A.

Experimental digital computer employing LEM-1 ferrite elements.
Izv. AN Azerb. SSR. Ser. fiz. tekhn. i khim. nauk no.2:47-60
'59.

(MIRA 12:8)

(Electronic digital computers)
(Ferrates)

GUTENMAKHER, L.I.: MAKHMUDOV, Yu.A.

Universal LEM-1 numerical calculating machine. Dokl.AN Azerb.
SSR 15 no.3:195-200 '59. (MIRA 12:5)

1. Vychislitel'nyy tsentr AN AzerbSSR. Predstavлено академиком
АН AzerSSR Z.I.Khalilovym.
(Calculating machines)

PHASE I BOOK EXPLOITATION

SOV/4058

Gutenmakher, Lev Izrailevich

Elektronnyye informatsionno-logicheskiye mashiny (Electronic Data-
Processing and Logic Devices). Moscow, Izd-vo AN SSSR, 1960.
189 p. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya
seriya). Errata slip inserted. 20,000 copies printed.

Ed.: A.A. Dorodnitsyn, Academician; Ed. of Publishing House:
Ye.I. Levit; Tech. Ed.: I.A. Makogonova.

PURPOSE: This book is intended for the general reader.

COVERAGE: The author discusses modern computer memory devices,
machine language, translating data into machine language, coding
of information, and automatic feeding of data into machine stor-
age. The book also covers various kinds of large storage de-
vices and their use in science and technology. No personalities
are mentioned. There are 27 references: 18 Soviet and 9 English.

TABLE OF CONTENTS:

Card 1/4

MINTS, A.L., akademik, glavnnyy red.; BURDUN, O.D., red.; VOL'PERT, A.R.,
red.; GORON, I.Ye., red.; GUTENMAKHER, L.I., prof., red.;
GRODNEV, I.I., red.; DEVYATKOV, N.D., red.; ZHEKULIN, L.A.,
red.; KATAYEV, S.I., red.; NEYMAN, M.S., red.; SIFOROV, V.I.,
red.; CHISTYAKOV, N.I., red.; GESSEN, L.V., red.izd-va;
MARKOVICH, S.G., tekhn.red.

[One hundredth anniversary of the birth of A.S.Popov; jubilee
session] 100 let so dnia rozhdeniya A.S.Popova; jubileinsai
sessia. Moskva, Izd-vo Akad.nauk SSSR, 1960. 312 p.

1. Nauchno-tehnicheskoye obshchestvo radiotekhniki i elektronovyyazi.
(Information theory) (MIRA 14:1)

GUTENMARKHER, L.L.

Chair: Mr. A.I. Matis, Academician; Editorial Board: G.D. Bardin, A.D. Vol'pert, S.B. Kostrov, N.B. Kostrova, N.I. Gurovich, I.D. Gurovich, L.A. Cherbikov, B.M. Gerasimov, N.B. Krylov, V.I. Sitnikov and N.I. Chirkov; Ed. or Publishing Bureau: L.N. Oseeski; Team: Ed. G.D. Martsinkevich.

This collection of reports is intended for radio engineers, radio-communicators and technicians working in radio engineering and telecommunications.

CONTENTS: The reports included in this collection are exhibited at the scientific-technical conference held in 1979 by the Radioelectronics department of the All-Union Scientific and Technical Society of Radioelectronics in A.D. Bogiev (Scientific and Technical Society of Radioelectronics).

卷之三

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R000617630002-6"

GUTENMAKHER, L.I.; DORODNITSYN, A.A., akademik, otv. red.; KLYAUS,
Ye.M., red. izd-va; GUS'KOVA, O.M., tekhn. red.; GUSEVA, A.P.,
tekhn. red.

[Electronic information and logic machines] Elektronnye informa-
tsionno-logicheskie mashiny. Izd.2., ispr. i dop. Moskva, Izd-
vo Akad. nauk SSSR, 1962. 199 p. (MIRA 15:12)
(Electronic computers)
(Information storage and retrieval systems)

L 17676-63BDS MLK(a)
ACCESSION NR: AP3004640

S/0286/63/000/006/0022/0022

AUTHOR: Gutenmakher, L. I.; Bardizh, V. V.; Zakharov, Yu. K.TITLE: Contactless time relay, Class 21, No. 153515SOURCE: Byul. izobret. i tovarnykh znakov, no. 6, 1963, 22

TOPIC TAGS: contactless time relay, time relay, relay

ABSTRACT: This patent introduces a contactless time relay (see Fig. 1 of Enclosure) using a magnetic amplifier with time-delay control based on variation in the feedback coefficient. In order to simplify time control over a wide range, use is made of bias winding, and the control winding is designed without capacitance and self-inductance. As a result, time control takes place during the transient time between closed and open conditions. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 27Apr50

SUB CODE: SD

Card 1/2

DATE ACQ: 27Aug63

ENCL: 01

NO REF Sov: 000

OTHER: 000

L 38260-65 EWT(d)/EEC(k)-2/EED-2/EWP(1) Pg-4/Pg-4/Pg-4 ICP(c) Bp/GG
ACCESSION NR: AP5007509 S/0285/65/000/004/0110/0113

AUTHOR: Gutenmakher, L. I.

TITLE: Long term capacitive memory device. ^{16C} Class 42, No. 122944

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 118

TOPIC TAGS: computer memory, binary code, information storage, information processing

ABSTRACT: This Author Certificate describes a long term, capacitive memory device for storing and processing binary coded information. The device is in the form of a unit composed of individual disks upon which are mounted capacitive electrodes. Disk interchange is implemented by constructing the disks with insulator material in the form of flanges. The flange grooves hold flat capacitive electrodes linked with busbars on the disks' surfaces. The linkage contact is broken for zero storage. The surfaces of insulated computation wires or busbars serve as the second electrodes, constituting a rigid base of the unit construction and a mount for the disk flanges.

ASSOCIATION: none
Card 1/8

L 38264-65

ACCESSION NR: AF5007510

AUTHOR: Gutenmakher, L. I.

S/0286/65/000/004/0119/0119

TITLE: A means of executing logical operations with multiple symbol complexes.
Class 42, No. 151862

SOURCE: Byulleten' izobrateniy i tovarnykh znakov, no. 4, 1965, 119

TOPIC TAGS: computer program, computer logic, computer memory, logic network, logic circuit

ABSTRACT: This Author Certificate describes a means for executing logical operations with multiple symbol complexes. Logic keys of the types "AND," "OR," "exclusive OR," etc are linked with elements of operating or long term memory devices in an n-dimensional (or n-coordinate) net of an arbitrarily assigned system of orthogonal curvilinear coordinates. An executive program, stored in the command memory section, performs signal transmission from similar storage elements of the memory in accordance with specified addresses. Transmission is directed to and from the logical keys of the decision device. The arrangement is designed so that upon filling the unit with information about similarly quantified n-dimensional domains, the n-dimensional logical decision units perform

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2 38464-55

ACCESSION NR: AP5007510

certain operations with the assistance of individual logic keys in the elements of the circuit. These operations, performed according to specified instructions, are union and subtraction of figures, defining figure boundaries, locating sections and intersections of certain figures cut by others, etc.

ASSOCIATION: none

SUBMITTED: 31Dec61

NO REF Sov: 000

ENCL: 00

OTHER: 000

SUB CODE: DP

Card 2/2 *llc*

VITTEMAHLER, L. +; TRIBUN, F.A.

Electronic data processing in the gas industry. Gas, prod. 9 no. 2;
26-30 '64.
(MfgA 1964)

GUTAR, R. S. and GYDNEYEV, F. A.

"Finding the Extrema of a Function with a Large Number of Variables,"
Vest. Voenno-inzh. Krasnoznamennoy Akad, im. Kuybyshev, No. 79, 1955

ARAMANOVICH, I.G.; GUTER, R.S.; LYUSTERNIK, L.A.; RAUKHVARER, I.L.;
SKANAVI, M.I.; YANPOL'SKIY, A.R. Prinimali uchastiye:
TRENOGIN, V.A.; BITYUTSKOV, V.I.; LAPKO, A.F., red.;
KOLESNIKOVA, A.P., tekhn. red.

[Mathematical analysis; differentiation and integration] Ma-
tematicheskii analiz; differentsirovanie i integrirovaniye. [By]
I.G.Aramanovich i dr. Moskva, Gos. izd-vo fiziko-matem. lit-ry,
1961. 350 p. (MIRA 15:2)

(Mathematical analysis)
(Calculus, Differential) (Calculus, Integral)

KACHMAZH, S. [Kaczmarz, Stefan]; SHTeingauz, G.; GUTER, R.S. [translator];
UL'YANOV, P.L. [translator]; VILENKHIN, N.Ya., red.

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(DUST, etern.

in air of place of work, sampling device)

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GUTERMAN, DE

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AID P - 787

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"Investigation of the Sonde Meteorograph of Manuylov's Design".
Trudy tsentr. aerolog. observ., No 12, pp 27-34, 1953.

The instrument MZM possesses three pressure transmitters, the presence of which permits one to determine the variation in atmospheric pressure with great accuracy. The first of these consists of two membrane aneroidal boxes and ensures ordinary accuracy of instruments required in aerology down to pressures of 250-200 millibars; the second, consisting of three boxes, fixes pressure from 200-250 mb down to the limiting minimum pressure; the third, consisting of 4 boxes, gives a barogram of pressure values of 50 mb down to the minimum. All the pressure receivers possess gas temperature compensation. The main temperature transmitters and supplementary transmitters similar to it consist of C-shaped bimetallic plate 0.35 mm thick. The main transmitter is set in a double shaft with natural ventilation. (RZhGeol, No 8, 1955)

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7250, 7300, 7350, 7400, 7450, 7500, 7550, 7600, 7650, 7700, 7750, 7800, 7850, 7900, 7950, 8000, 8050, 8100, 8150, 8200, 8250, 8300, 8350, 8400, 8450, 8500, 8550, 8600, 8650, 8700, 8750, 8800, 8850, 8900, 8950, 9000, 9050, 9100, 9150, 9200, 9250, 9300, 9350, 9400, 9450, 9500, 9550, 9600, 9650, 9700, 9750, 9800, 9850, 9900, 9950, 10000, 10050, 10100, 10150, 10200, 10250, 10300, 10350, 10400, 10450, 10500, 10550, 10600, 10650, 10700, 10750, 10800, 10850, 10900, 10950, 11000, 11050, 11100, 11150, 11200, 11250, 11300, 11350, 11400, 11450, 11500, 11550, 11600, 11650, 11700, 11750, 11800, 11850, 11900, 11950, 12000, 12050, 12100, 12150, 12200, 12250, 12300, 12350, 12400, 12450, 12500, 12550, 12600, 12650, 12700, 12750, 12800, 12850, 12900, 12950, 13000, 13050, 13100, 13150, 13200, 13250, 13300, 13350, 13400, 13450, 13500, 13550, 13600, 13650, 13700, 13750, 13800, 13850, 13900, 13950, 14000, 14050, 14100, 14150, 14200, 14250, 14300, 14350, 14400, 14450, 14500, 14550, 14600, 14650, 14700, 14750, 14800, 14850, 14900, 14950, 15000, 15050, 15100, 15150, 15200, 15250, 15300, 15350, 15400, 15450, 15500, 15550, 15600, 15650, 15700, 15750, 15800, 15850, 15900, 15950, 16000, 16050, 16100, 16150, 16200, 16250, 16300, 16350, 16400, 16450, 16500, 16550, 16600, 16650, 16700, 16750, 16800, 16850, 16900, 16950, 17000, 17050, 17100, 17150, 17200, 17250, 17300, 17350, 17400, 17450, 17500, 17550, 17600, 17650, 17700, 17750, 17800, 17850, 17900, 17950, 18000, 18050, 18100, 18150, 18200, 18250, 18300, 18350, 18400, 18450, 18500, 18550, 18600, 18650, 18700, 18750, 18800, 18850, 18900, 18950, 19000, 19050, 19100, 19150, 19200, 19250, 19300, 19350, 19400, 19450, 19500, 19550, 19600, 19650, 19700, 19750, 19800, 19850, 19900, 19950, 20000, 20050, 20100, 20150, 20200, 20250, 20300, 20350, 20400, 20450, 20500, 20550, 20600, 20650, 20700, 20750, 20800, 20850, 20900, 20950, 21000, 21050, 21100, 21150, 21200, 21250, 21300, 21350, 21400, 21450, 21500, 21550, 21600, 21650, 21700, 21750, 21800, 21850, 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36200, 36250, 36300, 36350, 36400, 36450, 36500, 36550, 36600, 36650, 36700, 36750, 36800, 36850, 36900, 36950, 37000, 37050, 37100, 37150, 37200, 37250, 37300, 37350, 37400, 37450, 37500, 37550, 37600, 37650, 37700, 37750, 37800, 37850, 37900, 37950, 38000, 38050, 38100, 38150, 38200, 38250, 38300, 38350, 38400, 38450, 38500, 38550, 38600, 38650, 38700, 38750, 38800, 38850, 38900, 38950, 39000, 39050, 39100, 39150, 39200, 39250, 39300, 39350, 39400, 39450, 39500, 39550, 39600, 39650, 39700, 39750, 39800, 39850, 39900, 39950, 40000, 40050, 40100, 40150, 40200, 40250, 40300, 40350, 40400, 40450, 40500, 40550, 40600, 40650, 40700, 40750, 40800, 40850, 40900, 40950, 41000, 41050, 41100, 41150, 41200, 41250, 41300, 41350, 41400, 41450, 41500, 41550, 41600, 41650, 41700, 41750, 41800, 41850, 41900, 41950, 42000, 42050, 42100, 42150, 42200, 42250, 42300, 42350, 42400, 42450, 42500, 42550, 42600, 42650, 42700, 42750, 42800, 42850, 42900, 42950, 43000, 43050, 43100, 43150, 43200, 43250, 43300, 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50500, 50550, 50600, 50650, 50700, 50750, 50800, 50850, 50900, 50950, 51000, 51050, 51100, 51150, 51200, 51250, 51300, 51350, 51400, 51450, 51500, 51550, 51600, 51650, 51700, 51750, 51800, 51850, 51900, 51950, 52000, 52050, 52100, 52150, 52200, 52250, 52300, 52350, 52400, 52450, 52500, 52550, 52600, 52650, 52700, 52750, 52800, 52850, 52900, 52950, 53000, 53050, 53100, 53150, 53200, 53250, 53300, 53350, 53400, 53450, 53500, 53550, 53600, 53650, 53700, 53750, 53800, 53850, 53900, 53950, 54000, 54050, 54100, 54150, 54200, 54250, 54300, 54350, 54400, 54450, 54500, 54550, 54600, 54650, 54700, 54750, 54800, 54850, 54900, 54950, 55000, 55050, 55100, 55150, 55200, 55250, 55300, 55350, 55400, 55450, 55500, 55550, 55600, 55650, 55700, 55750, 55800, 55850, 55900, 55950, 56000, 56050, 56100, 56150, 56200, 56250, 56300, 56350, 56400, 56450, 56500, 56550, 56600, 56650, 56700, 56750, 56800, 56850, 56900, 56950, 57000, 57050, 57100, 57150, 57200, 57250, 57300, 57350, 57400, 57450, 57500, 57550, 57600, 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GUTERMAN, I. G.

USSR/Physics of the Atmosphere - Dynamic Meteorology, M-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36095

Author: Guterman, I. G.

Institution: None

Title: On the Adiabatic Variation of Gas Temperature Inside a Rising Sphere

Original

Periodical: Meteorol. i gidrologiya, 1956, No 4, 34-35

Abstract: The magnitude of the vertical gradient of temperature inside a hydrogen-filled rising sphere is calculated. Neglecting the amount of pressure necessary to overcome the elastic forces of the rubber (1-3 mb) it is assumed that the pressure of the hydrogen inside the sphere equals the pressure of the surrounding air. In addition, the temperature inside the sphere is assumed approximately equal to the air temperature. From relationships, describing the adiabatic process, it follows that with the above assumptions the temperature of the rising particle of hydrogen in an air medium

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USSR/Physics of the Atmosphere - Dynamic Meteorology, M-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36095

Abstract: changes approximately the same as the temperature of a rising particle of unsaturated air. The value of the vertical temperature gradient inside the sphere is obtained to be $0.9885 \times 10^{-40}/\text{cm}$.

Card 2/2

GUTERMAN, I.G.

Simultaneous processing of pilot balloon and radiosonde observations
for aeroclimatological purposes. Trudy Tashk.geofiz.obser. no.11/12:
59-61 '56. (MLRA 10:8)

1. Tsentral'naya aerologicheskaya observatoriya.
(Balloons, Pilot)
(Radiosondes)

GUTERMAN, I.G.

Daily variations of the air temperature in the free atmosphere
according to the data of two series of frequent aerological obser-
vations in 1953. Trudy GGO no.6547-55 '56. (MIRA 15:6)
(Atmospheric temperature)

3(3)

AUTHORS:

Guterman, I. G.,
Khanevskaya, I. V.

S/050/60/000/02/016/016
B007/B005

TITLE:

Second All-Union Conference on Problems of Aeroclimatology

PERIODICAL:

Meteorologiya i hidrologiya, 1960, Nr 2, pp 60-61 (USSR)

ABSTRACT:

The Second All-Union Conference on Problems of Aeroclimatology was held in Moscow in November 1959. It was attended by 26 scientific research subdepartments of the Gidrometeoservis (Hydrometeorological Service) and 29 institutions of various authorities with 223 persons altogether. The Conference was opened by K. T. Logvinov, Deputy Chief of the GUGMS (Main Administration of the Hydrometeorological Service). 27 reports were delivered. P. K. Yevseyev, Director of the NIIAK, gave an account of the work in the field of aeroclimatology in the USSR and described the state of this discipline abroad. I. V. Khanevskaya (NIIAK) characterized the temperature field over the northern hemisphere. V. R. Dubentsov (TsIP (Central Institute of Forecasts)) characterized temperature, geopotential and wind up to the 10-mb level in January 1958 and July 1957. L. G. Zastavenko (NIIAK) reported on the middle field of the

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Aeroclimatology

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geopotential. I. G. Pchelko (TsIP) characterized the development of high-altitude anticyclones in summer according to data of the International Geophysical Year. S. I. Dunayeva (NIIAK) described the wind distribution over the northern hemisphere. I. G. Guterman (NIIAK) in his report studied the main characteristics of temperature-, pressure-, and wind distribution over the territory of the USSR. M. V. Zavarina (GGO) reported on the distribution of probable zones of increased turbulence causing the bump of airplanes. N. F. Gel'mgol'ts (Kaz. NIGMI) gave a survey of aeroclimatic characteristics over Kazakhstan. S. N. Ivanova (Sr.-Az. NIGMI (Soviet Central Asia NIGMI)) reported on conditions in the free atmosphere over Soviet Central Asia. L. A. Gavrilova and V. I. Knyazeva, scientific cooperators of the AANII, presented statistical data on the structure of anticyclones and cyclones over the Arctic. M. A. Zolotarev (TsAO (Central Aerological Observatory)) showed by means of vertical sections through the atmosphere that a determination of the tropopause according to conditional criteria is insufficient, and therefore the synoptical conditions have to be considered. I. F. Kvaratskheliya (Tbil. ✓)

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NIGMI (Tbilisi NIGMI) represented the opinion that in a multiple-layer tropopause over the southern USSR the upper tropical tropopause is the essential one whereas the lower layer is to be assigned to the fronts. F. N. Stel'makh (NIIAK) described the characteristics of the interdiurnal altitude- and temperature variability at the lower tropopause boundary over different regions of the USSR. P. A. Vorontsova (GGO) and N. A. Lazareva (GGO) spoke about aeroclimatology in the boundary layer. Both lecturers determine the altitude of the boundary layer starting from the theoretical assumptions by D. L. Laykhtman. I. G. Guterman showed that in the free atmosphere the distribution of the wind velocities obeys the Maxwell distribution law. G. Ya. Narovlyanskiy (VVA im. Mozhayskogo (VVA imeni Mozhayskogo)) and S. V. Solonin (LGMI) described a method of calculating the equivalent wind. I. N. Shpakovskiy (NII GAU) spoke about establishing the minimum times for sounding. L. A. Kazakov (LGMI) mentioned the possibility of calculating a number of additional mean characteristics of atmospheric conditions. R. F. Usmanov (TsIP) explained the advantage of the use of standard altitudes (as

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compared with isobaric surface levels) for investigating atmospheric processes. The Conference recommended to publish the reports and the conference material.

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GUTERMAN, I.G.

Elimination of radiation errors from mean aeroclimatic temperature
data. Meteor. i gidrol. no.3:28-33 Mr '61. (MIRA 14:2)
(Atmospheric temperature) (Radiosondes)

GUTERMAN, I.G.

Statistical law of wind velocity distribution. Meteor. i
gidrol. no.9:13-22 S '61. (MIRA 14:8)
(Winds)

GUTERMAN, I.G.

Wind statistics. Trudy NIIAK no.14:84-108 '61. (MIRA 15:1)

1. Nauchno-issledovatel'skiy institut aeroklimatologii.
(Winds)

S/169/62/000/001/035/082
D228/D302

AUTHOR: Guterman, I. G.

TITLE: Eliminating the radiational errors of pectinate radio-sounding apparatus from aeroclimatic temperature data

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 2-3, abstract 1B25 (Tr. N.-i. in-ta aeroklimatol., no. 14, 1961, 109-119)

TEXT: Work on determining the systematic radiational errors of pectinate radio-sounding apparatus was carried out in 1959 at the Nauchno-issledovatel'skiy institut aeroklimatologii (Scientific Research Institute of Aeroclimatology) to make more precise the multi-year data on the air temperature at great heights. From the data of radio-sounding for 1953-1956 at 12 stations, situated at the same latitude (55° N), the magnitude of the radiational errors of radio-sounding apparatus were calculated. and their relation to the heights of the sun and to the altitude above sea-level was

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Eliminating the radiational ...

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determined. A special method was developed for rectifying the multi-year climatic temperature data. Radiational corrections for average climatic data on the temperature at the 5, 10, 15, and 20 km levels were calculated from new, more precise data about the radiational errors of pectinate radio-sounding apparatus. Maps of the distribution of these corrections over the USSR's territory were constructed. At heights of about 20 km the radiational correction for the average monthly temperature reaches 4 - 5° in July over the USSR's eastern districts and 2 - 3° above western areas. In January at the same altitude the radiational correction is small and reaches 2.5° only over Kamchatka. To the west and north it abruptly diminishes to zero. *[Abstractor's note: Complete translation.]* ✓

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GUTERMAN, I.G.; DUNAYEVA, S.I.

Some remarks on the construction of aeroclimatic wind charts.
Trudy NIIAK no.16:45-49 '62. (MIRA 15:11)
(Winds)

BALAKHONOV, V.P.; BOCHIN, N.A.; GUTERMAN, I.G.; ZAKHAROV, V.N.; ZMIYEV,
A.B.; KARMANOV, V.D.; KEKUKH, A.M.; MARGOLIN, L.M.; TOPAL, I.D.

Brief news. Meteor.i gidrol no.2:61-64 F '63. (MIRA 16:2)
(Meteorology)

ACCESSION NR: AT4028301

S/2667/63/000/024/0066/0091

AUTHOR: Guterman, I. G.; Dunayeva, S. I.; Zvereva, Ye. P.; Marchenko, A. S.

TITLE: Climatic characteristics of the wind in a model of the standard atmosphere

SOURCE: Moscow. Nauchno-issledovatel'skiy Institut aeroklimatologii. Trudy*, no. 24, 1963, 66-91

TOPIC TAGS: standard atmosphere, meteorology, climatology, wind, wind velocity, wind direction, troposphere, stratosphere

ABSTRACT: A method has been developed for processing aerological observations for a 10-year period (1950-1959) to the 30-mb isobaric surface for the determination of wind characteristics, averaged over large regions and the hemisphere. The determined characteristics are recommended as the first variant of a model of a standard atmosphere for the northern hemisphere. Wind parameters were determined for January, for July and for the year to a height of 25 km. The principal parameters used for this model were the mean scalar velocity of the wind for the month and the year and the resultant wind vector (value and direction). Both characteristics were determined using data for 200 stations, a total of 470,000 observations, processed by electronic computer. Principles and methods employed in this study are described fully. The many difficulties in handling this complex problem

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are discussed. Wind parameters are summarized and analyzed for six geographic regions within which the character of wind distribution can be considered homogeneous in the first approximation. Nonuniformity of station distribution and decreasing number of observations at greater heights are taken into account. In this process data were averaged for 206 equal-area squares in the northern hemisphere. The six regions for which data are generalized are: polar regions; Europe and part of Asia; North America and the North Atlantic; North Africa and Central Asia; North Pacific Ocean and the Far East; and the equatorial and tropical regions. The following section headings indicate the nature of the development of the paper: Introduction; characteristics of the data used; principal geographic regions defined for the purpose of description of wind over the northern hemisphere; the wind vector as a random value; determination of the climatic characteristics of the wind; general principles for determining mean parameters for regions and the hemisphere; averaging data for stations; averaging data for regions and the hemisphere; determination of wind characteristics for standard heights; practical computation of derivatives of wind parameters at standard heights. Orig. art. has: 29 formulas, 11 figures and 3 tables.

ASSOCIATION: Nauchno-issledovatel'skiy Institut aeroklimatologii, Moscow
(Scientific Research Institute of Aeroclimatology)

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ACCESSION NR: AT4028301

SUBMITTED: 00

DATE ACQ: 16Apr64

ENCL: 00

SUB CODE: AS

NO REF Sov: 014

OTHER: 007

Card 3/3

ZVEREVA, Ye.P.; LITVINOV, V.N.; and V.P. SUDOV, eds. (1964) *WINDS OVER THE USSR*, A.D.,
red.

[Day-to-day variation of pressure, temperature and wind over the
U.S.S.R. Mezhdusutochnaya izmenchivost' davleniya, temperatury i
vatra nad SSSR. Leningrad, Gidrometeorizdat, 1964. 81 p. (Moscow.
Nauchno-issledovatel'skii institut aeroklimatologii. Trudy, no.22).
(TIBA 17:10)]

L 10420-66 EWT(1)/FCC/ GW
AM5025630

BOOK EXPLOITATION

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551.55

Guterman, Isay Grigor'yevich

4435

Wind distribution over the Northern Hemisphere (Raspredeleniye vетра
nad severnym polushariyem). Leningrad, Gidrometeoizdat, 1965. 250 p.
illus., biblio. (At head of title: Glavnoye upravleniye gidro-
meteorologicheskoy sluzhby pri Sovete Ministrov SSSR, Nauchno-
issledovatel'skiy institut aeroklimatologii). 800 copies printed.

TOPIC TAGS: climatology, meteorological observation, wind distribution/Northern Hemisphere, wind circulation model

PURPOSE AND COVERAGE: The book gives a general outline of the most complete recent data on wind distribution in the free atmosphere over the Northern Hemisphere. Analysis of winds by means of charts of constant-pressure surfaces and vertical sections is presented on the basis of aerological observations made at 252 stations in the Northern Hemisphere during the period 1950-1959. New diagrams are plotted for the mean zonal and mean meridional circulation in the Northern Hemisphere. Basic climatic zones of northern jets, their

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propagation area, annual variation, and other characteristics, are described. Methods of analyzing aeroclimatologic wind data using statistical laws of distribution are discussed in detail. Analyzing wind data from various levels is done, taking into consideration practical applications for meeting the needs of various branches of the national economy. The book is intended for a wide range of specialists in meteorology, for physicists and designers, using wind characteristics in their calculations. It may also be used as a textbook by students specializing in general and dynamic meteorology. There are 263 references of which 139 are Soviet.

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2. Zonal circulation -- 87

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SUB CODE: ES

SUBMITTED: 26Mar65 NO REF SOV: 129

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KORCHEMNYY, L.V.; GUTERMAN, I.I., kand. tekhn. nauk, red.;
YEGORKINA, L.I., red.izd-va; DEMKINA, N.F., tekhn.red.;
MAKAROVA, L.A., tekhn. red.

[Mechanism of the gas distribution in an engine; kinematics, dynamics, strength calculation] Mekhanizm gazoraspredeleniya dvigatelya; kinematika, dinamika, raschet na prochnost'. Moskva, Mashinostroenie, 1964. 209 p. (MIRA 17:3)

GUTERMAN, I. I., N. R. BILING, and M. V. VIKHERT

Bystrokhodnye dizeli. Isp. v kachestve uchebn. posobiia dlia vyssh. tekhn. uchebn. zavedenii. Moskva, Mashgiz, 1951. 520 p. illus.

Bibliography: p. (516)-517.

High-speed Diesel engines.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

GUTERMAN, I.I., kand. tekhn. nauk; FILIMONOV, A.I., kand. tekhn. nauk; SHAANOV, A.I., inzh.

Balancing the D21 two-cylinder diesel engine. Trakt. i sel'khozmash,
no.7:8-11 J1 '65. (MIRA 18:7)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut (for Guterman, Filimonov). 2. Vladimirskiy traktornyy zavod (for Shaanov).